

Heat Stress Program

LG #2



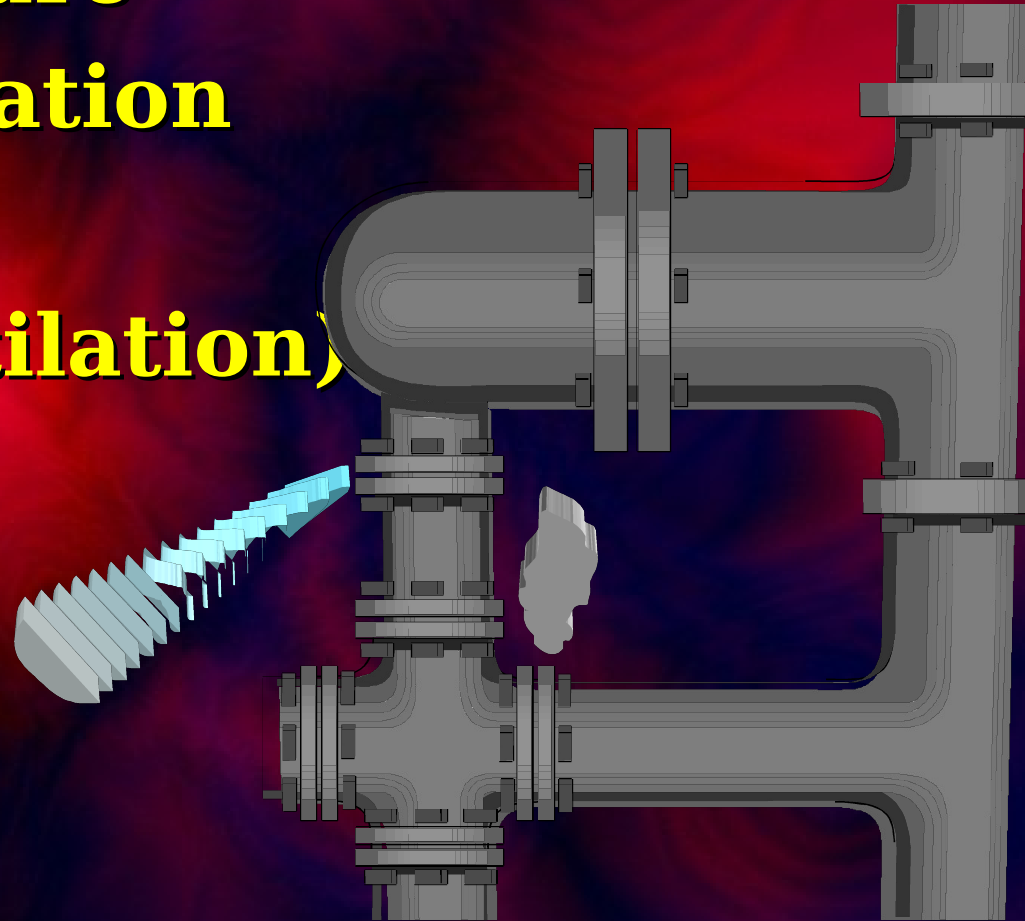
A. Physiology of Heat Stress

Physiology of Heat Stress

- **The effect of factors on the body as it tries to regulate body temperature**
 - **The body generates heat; is sensitive to external heat factors**
 - **The body tries to regulate internal temperatures naturally**
 - **Failure of natural cooling ability causes heat stress**

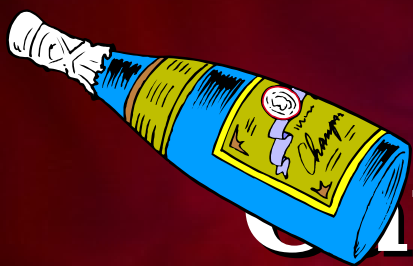
Types of Heat Affecting the Body

- **Air temperature**
- **Thermal radiation**
- **Humidity**
- **Air flow (ventilation)**



Symptoms of Heat Stress

- **Fatigue**
- **Severe headaches**
- **Nausea**
- **Decreased performance**
 - **Physical**
 - **Mental**



Causes of Heat Stress

- **Wearing protective clothing**
 - Chemical Suits
 - Fire Fighting Ensembles
 - Proximity Suits
- **High humidity + Heavy exercise**
- **Illness**
- **Intoxication**
- **Poor physical condition**



The background of the slide is a close-up, high-contrast image of intense flames. The fire is bright yellow and orange, with dark, swirling patterns of smoke and ash visible within the fire's structure. The flames are rising and billowing, creating a sense of heat and danger. The overall tone is dark, with the fire providing the primary light source.

B. Navy Heat Stress Control Program

Responsibilities

- **CNO**
 - **Set Policy in OPNAVINST 5100.19 (series)**
- **NAVSEA & TYCOM's**
 - **Design better ventilation**
 - **Provide funds for engineering controls**
 - **Assist in repairs**
- **INSURV & OPPE**
 - **Inspect the Heat Stress Program for compliance**

Responsibilities

- **Commanding Officer**
 - Establishes and enforces Heat Stress Program
 - Ensures Heat Stress Deficiencies corrected
 - Requests assistance to identify problems
 - Reports injuries & conducts investigations
- **Engineering Officer, Supply Officer, and MDR**
 - Have specific duties according to OPNAVINST 5100.19 (series)

The background of the slide is a close-up, slightly blurred image of intense orange and yellow flames against a dark background, suggesting a fire or heat source.

C. Heat Stress Program Parameters

Heat Stress Program Parameters

- **Identify problem areas**
 - **Determine potential heat stress areas**
 - **Include weather and flight deck areas**
- **Eliminate problems if possible**
 - **Engineering controls**
 - **Use available SHIPALT funding**

Heat Stress Program Parameters

- **Monitor heat stress areas**
 - **Hang dry bulb thermometers**
 - **Record temperatures**
 - **Take hourly readings as necessary**

Heat Stress Program Parameters

- **Conduct WBGT heat stress meter surveys**
 - **Contact Engineering Dept. or MDR for readings**
 - **Ensure all steam ships have 2 meters**
 - **Only qualified monitors take readings**
 - **Use with Physiological Heat Exposure Limit (PHEL) chart for stay-times**
 - **Consult OPNAVINST 5100.19 (series) for guidance**

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D. Personnel Working in Heat Stress Areas

Heat Exhaustion

- **Symptoms**
 - **Profuse sweating**
 - **Pale and clammy skin**
 - **Pulse fast and weak**
 - **Breathing fast and shallow**
 - **Dizziness**
 - **Nausea**

Heat Exhaustion

- **First Aid**
 - **If unconscious, Call a Medical Emergency**
 - **Loosen clothing**
 - **Move victim to cooler**
 - **If faint, lower head to knees**
 - **Give sips of water if conscious**
 - **Take to Medical**



Heat Stroke

- **Symptoms**
 - Skin--Hot, Flushed, Dry
 - Pulse fast and strong
 - Breathing deep
 - Vomiting, Cramps, Twitching
 - Will go into shock
- **Can Be FATAL!**



Heat Stroke

- **First Aid**

- **CALL A MEDICAL EMERGENCY!**
- **Move victim to cool space**
- **Remove clothing**
- **Cover with cold, wet materials**
- **Gently massage arms and legs**
- **Lower body temperature to 101° F**



Heat Stress Prevention

- **Contact supervisor for temps > 100° F**
- **Keep an eye on shipmates & watch for symptoms**
- **Know your own limits**
- **Eat well**
- **Drink water frequently**



Heat Stress Prevention

- **Get plenty of rest**
- **Allow body to acclimate to heat**
- **Stay away from coffee, sodas, Gatorade, and salt tablets**
- **Take required recovery time when leaving heat stress area**
- **Report heat stress problems (missing lagging, steam leaks, poor ventilation, etc.)**